

Do we see colour the
same?



In Western cultures, **blue** is generally thought to represent trust, security, and authority. You might have noticed that police forces in the UK and the USA both have **blue** incorporated into their uniforms, and many banks choose **blue** for their logos.

When you're looking at a rainbow, the light arriving at **your eyes** is the sunlight refracting and reflecting on specific droplets of water, which will be **different to the ones** refracting and reflecting the light to your friend's eyes. And so rainbows are not just considered **striking to look at** - what we see is also **unique to us** as individuals.






When someone is **colourblind**, one of the three types of **sensors in their eyes** is not functioning as they should. Subsequently, the information received by their brain is restricted which limits the **number of colours** they can distinguish.

Dr Stuart Peirson from Oxford's Sleep and Circadian Neuroscience Institute explained: 'When we **expose mice to light** during the night, it causes them to fall asleep. Yet, at the same time, it also **increases** levels of corticosterone, a stress hormone produced by the adrenal gland that causes arousal - **wakefulness**.





The discovery of the non-image-forming visual pathway has given a new impetus to research that explores how we respond, both physiologically and psychologically, to colour around us. The increasing availability and use of coloured lighting that has resulted from advances in LED technology has added to the need to carry out rigorous research in this field.

<https://oxplore.org/additional-resource/1758/1781#1781>

With increases in technology come improved ways of purifying pigments and making new ones, as well as new colour displays. So we can make objects that differ based only on colour – for instance, the new iPhone comes in “rose gold” and “gold” – which makes colour-naming even more useful.

–The Conversation, <https://explore.org/additional-resource/1758/1782#1782>



Colour vision is mediated by a **special type of cell**, found in the retina, called a cone.

Humans have **three types of cones**, which detect red, green, and blue light. While dogs only have two – these are specialised to **detect yellow and blue light**.

“Scientists start with the data they observe, and they build theories about what explains the data. It’s the same with ordinary perception. Your own subjective experiences are the data. When you form beliefs about the world you’re being a little scientist and formulating a hypothesis about what lies beyond these experiences.”

– Professor Bill Child, University of Oxford

What things might make us see colour differently than others?

How does our exposure to light impact the way that we see colour?

How have our perceptions of colour changed throughout history?